



## FEEDLOT BEEF PRODUCTION TECHNICIAN

**Course:** Handling Feedlot Cattle 33

**Program:** Green Certificate

**Credits:** 6

**Corequisite:** CTR1210: Personal Safety (Management)


**Note:** Students are required to complete the corequisite course prior to or concurrent with their enrollment in the first course of the Feedlot Beef Production Technician specialization.

**Description:** Students demonstrate the ability to process and handle cattle, including receiving cattle, implanting growth stimulants, applying ear tags, vaccinating cattle, branding cattle, shipping cattle, applying insecticides, dehorning cattle and performing castration; maintain facilities, using appropriate housekeeping procedures; and demonstrate effective and appropriate employability skills.

**Parameters:** Each of the three courses that constitute the Feedlot Beef Production Technician specialization is designed to be delivered off campus. The annual inspection and approval of the work station, and the monitoring, supervision and assessment of each student's progress and performance must be done in accordance with the procedures specified in the Off-Campus Education policy.

### Curriculum and Assessment Standards

Prescribed General Outcomes	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>demonstrate the ability to process and handle cattle, by:               <ul style="list-style-type: none"> <li>identifying and interpreting cattle behaviour</li> <li>performing cattle receiving procedures</li> <li>implanting growth stimulants</li> <li>inserting/applying ear tags</li> <li>vaccinating cattle</li> <li>branding cattle</li> <li>shipping cattle</li> <li>applying insecticides</li> <li>dehorning cattle</li> <li>castrating cattle</li> </ul> </li> </ul>	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> <li>ongoing assessment of student performance, which is conducted:               <ul style="list-style-type: none"> <li>on a daily basis by the student's on-farm trainer in regular consultation with the student's supervising teacher</li> </ul> </li> <li>certification testing, which is conducted by a Green Certificate Assessor designated by AAFRD and includes:               <ul style="list-style-type: none"> <li>a performance assessment of practical knowledge and skills</li> <li>a written examination.</li> </ul> </li> </ul> <p>Successful completion of this course will be credited toward the attainment of the Feedlot Beef Production Green Certificate Technician credential.</p>	75%



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<i>The student will:</i> <ul style="list-style-type: none"><li>demonstrate the ability to process and handle cattle, by:<ul style="list-style-type: none"><li>identifying and interpreting cattle behaviour</li><li>performing cattle receiving procedures</li><li>implanting growth stimulants</li><li>inserting/applying ear tags</li><li>vaccinating cattle</li><li>branding cattle</li><li>shipping cattle</li><li>applying insecticides</li><li>dehorning cattle</li><li>castrating cattle</li></ul></li></ul>	<i>Assessment of student achievement should be based on:</i> <ul style="list-style-type: none"><li>ongoing assessment of student performance, which is conducted:<ul style="list-style-type: none"><li>on a daily basis by the student's on-farm trainer in regular consultation with the student's supervising teacher</li></ul></li><li>certification testing, which is conducted by a Green Certificate Assessor designated by AAFRD and includes:<ul style="list-style-type: none"><li>a performance assessment of practical knowledge and skills</li><li>a written examination.</li></ul></li></ul> <p>Successful completion of this course will be credited toward the attainment of the Feedlot Beef Production Green Certificate Technician credential.</p>	75%

**Course: Handling Feedlot Cattle 33 (continued)**

Prescribed General Outcomes	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>• maintain facilities, by:               <ul style="list-style-type: none"> <li>– demonstrating effective housekeeping and safety skills</li> </ul> </li> <li>• demonstrate effective and appropriate employability skills.</li> </ul>		<p>15%</p>    <p>10%</p>



**Course: Handling Feedlot Cattle 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
<p>Processing and Handling Cattle</p> <ul style="list-style-type: none"> <li>Vision</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>describe the nature of cattle vision</li> <li>describe visual incidents or situations that can affect cattle behaviour positively and negatively</li> </ul>	<p>Characteristics of cattle vision include:</p> <ul style="list-style-type: none"> <li>270 degrees of vision</li> <li>more observant than humans</li> <li>affected by light patterns</li> <li>blind spot directly behind animal.</li> </ul> <p>Negatives:</p> <ul style="list-style-type: none"> <li>flapping items and sudden movements</li> <li>strange people and animals.</li> </ul> <p>Positives:</p> <ul style="list-style-type: none"> <li>even, diffused light</li> <li>no distractions</li> <li>muffled noise.</li> </ul>
<ul style="list-style-type: none"> <li>Sound</li> </ul>	<ul style="list-style-type: none"> <li>describe the nature of cattle hearing; e.g., hearing sensitivity</li> <li>describe noise situations that cause problems for cattle; e.g., loud and unusual noises, such as banging metal, engine roar, clanging chute</li> <li>identify and describe effective sound management practices when handling cattle</li> </ul>	
<ul style="list-style-type: none"> <li>Footing Agility</li> </ul>	<ul style="list-style-type: none"> <li>describe the footing agility of cattle</li> <li>describe factors that affect footing agility</li> </ul>	<p>Agility is influenced by:</p> <ul style="list-style-type: none"> <li>foot structure</li> <li>floor and ground surfaces</li> <li>cattle weight—heavier cattle are less nimble.</li> </ul>
<ul style="list-style-type: none"> <li>Splitting and Spreading</li> </ul>	<ul style="list-style-type: none"> <li>define splitting and spreading</li> <li>describe possible effects of splitting and spreading</li> <li>describe factors that may cause splitting and spreading</li> </ul>	<p>Effects of splitting and spreading may include:</p> <ul style="list-style-type: none"> <li>loss of cattle value</li> <li>irreparable damage</li> <li>pulled muscles.</li> </ul>

**Course: Handling Feedlot Cattle 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> <li>Behavioural Differences</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>describe basic characteristics of cattle behaviour</li> <li>describe behavioural differences among cattle, based on variable factors</li> <li>explain how behavioural differences affect the handling of different cattle</li> <li>describe the effects of the following on cattle behaviour and eating patterns: <ul style="list-style-type: none"> <li>illness—disorder, disease, parasites</li> <li>weather</li> <li>trucking</li> </ul> </li> </ul>	<p>Factors include:</p> <ul style="list-style-type: none"> <li>breed</li> <li>sex</li> <li>age of animal</li> <li>cows with young calves</li> <li>newly purchased cattle.</li> </ul>
<ul style="list-style-type: none"> <li>Flight Distance</li> </ul>	<ul style="list-style-type: none"> <li>define flight distance</li> <li>describe flight distance among different types of cattle</li> <li>demonstrate appropriate operator handling/standing position for different types of cattle</li> <li>explain the factors affecting handler control of cattle</li> <li>demonstrate effective handler control practices</li> </ul>	<p>Flight distance is affected by the animal's:</p> <ul style="list-style-type: none"> <li>unpredictability</li> <li>curiosity</li> <li>stress level.</li> </ul> <p>Effective cattle handling practices include:</p> <ul style="list-style-type: none"> <li>patience</li> <li>care</li> <li>concern.</li> </ul>
<ul style="list-style-type: none"> <li>Receiving Cattle</li> </ul>	<ul style="list-style-type: none"> <li>identify and describe the feedlot's receiving policy and procedures</li> <li>identify documentation that accompanies a cattle shipment</li> <li>explain the purpose of the following documents: <ul style="list-style-type: none"> <li>bill of sale</li> <li>manifest</li> <li>weigh scale ticket</li> </ul> </li> <li>read and interpret shipping documentation</li> </ul>	<p>Cattle receiving documentation includes:</p> <ul style="list-style-type: none"> <li>weigh scale ticket</li> <li>manifest</li> <li>bill of sale.</li> </ul> <p>All documentation should be double-checked by the trainer, unless students have been assigned total responsibility.</p>
(continued)		



**Course: Handling Feedlot Cattle 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
(continued)	<i>The student will:</i>	
<ul style="list-style-type: none"> <li>Receiving Cattle</li> </ul>	<ul style="list-style-type: none"> <li>perform an animal count, and verify the manifest</li> <li>complete a cattle-processing sheet accurately</li> <li>inspect, visually, cattle received for injury or sickness</li> <li>describe and demonstrate procedures to follow when irregularities are observed</li> <li>address irregularities with truckers</li> <li>identify and describe procedures used to handle a fresh shipment of cattle</li> <li>demonstrate correct procedures for handling a fresh shipment of cattle</li> </ul>	<p>Shipment irregularities may include:</p> <ul style="list-style-type: none"> <li>cattle counts</li> <li>improper documents</li> <li>cattle injury</li> <li>insurance problems.</li> </ul>
<ul style="list-style-type: none"> <li>Growth Stimulants</li> </ul>	<ul style="list-style-type: none"> <li>explain the purpose of growth stimulants</li> <li>identify and describe common additives used in implants</li> <li>describe the action of growth stimulants</li> <li>identify and describe how growth stimulants are administered</li> <li>identify and describe the location on an animal for administering a growth stimulant</li> <li>explain the importance of withdrawal period</li> <li>describe animal characteristics for which different stimulants are designed</li> <li>identify and describe hazards, to operators and to animals, associated with implanting stimulants</li> <li>describe and demonstrate implanting techniques to minimize hazards</li> <li>restrain an animal, and implant a stimulant as directed</li> <li>complete required documentation</li> <li>identify and describe the role of government agencies in regulating the use of growth stimulants</li> </ul>	<p>Growth stimulants are administered to:</p> <ul style="list-style-type: none"> <li>stimulate animals' metabolism</li> <li>affect weight gain</li> <li>increase feed efficiency.</li> </ul> <p>Stimulants are designed to be appropriate to animals':</p> <ul style="list-style-type: none"> <li>age</li> <li>size</li> <li>sex.</li> </ul> <p>Hazards associated with implanting stimulants include:</p> <ul style="list-style-type: none"> <li>needle jabs</li> <li>other sharp instruments</li> <li>thrashing animal.</li> </ul> <p>The dosage of each stimulant is determined by the manufacturer.</p> <p>Students must be properly supervised when implanting stimulants.</p> <p>Cleanliness is critical when implanting stimulants.</p> <p>Code of practice regarding growth stimulants is designed to protect both animals and consumers.</p>

**Course: Handling Feedlot Cattle 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> <li>• Ear Tags</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>• explain the purpose of tagging</li> <li>• identify and describe feedlot policy regarding identifying animals</li> <li>• identify and describe safety hazards associated with tagging</li> <li>• describe techniques of tagging that minimize hazards</li> <li>• identify and describe types of tags used to identify cattle</li> <li>• identify and describe methods used to attach tags</li> <li>• locate an appropriate site for tagging each animal</li> <li>• insert/apply a tag</li> </ul>	<p>Tags are used to identify various attributes of the animal, including its health, history of treatments and government inspection.</p> <p>The types of tags used and their method of insertion/application is usually determined by the feedlot's tagging policy and protocol.</p> <p>Insertion/application of tags should be performed in accordance with the tag manufacturer's instructions.</p>
<ul style="list-style-type: none"> <li>• Vaccination</li> </ul>	<ul style="list-style-type: none"> <li>• identify and describe the purpose of vaccines and vaccination</li> <li>• describe how vaccines affect cattle health</li> <li>• distinguish among live, killed and modified vaccines</li> <li>• identify and describe procedures for handling vaccines</li> <li>• identify and describe hazards associated with vaccination</li> <li>• describe procedures used to minimize hazards</li> <li>• identify the correct vaccine dosage for different treatments</li> <li>• identify the correct locations on animals for vaccination</li> <li>• administer the correct dosage of vaccine to animals</li> <li>• explain when a vaccination needle should be changed</li> </ul>	<p>Vaccines are medications used to either cure an illness or to prevent its occurrence. Specific vaccines are available to treat/prevent different animal diseases.</p> <p>Live vaccine requires more careful handling than killed or modified vaccines.</p> <p>Light, temperature and storage conditions are important in maintaining the effectiveness of vaccines. In addition, vaccines must be stored and used under sanitary conditions.</p> <p>Vaccine dosages are usually determined and specified by each vaccine's manufacturer. Careful reading, understanding and following of the manufacturer's instructions is, therefore, essential.</p> <p>Needles should be changed when they are barbed, bent or dirty. They are also changed when refilling a multiuse syringe.</p>



Course: Handling Feedlot Cattle 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> <li>Hot Iron Branding</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>identify and describe the purpose of branding</li> <li>identify and describe different methods of branding: <ul style="list-style-type: none"> <li>temperature method</li> <li>heating method</li> </ul> </li> <li>identify and describe hazards associated with branding</li> <li>describe and demonstrate procedures to minimize hazards when branding</li> <li>match the correct brand with individual cattle</li> <li>heat the brand to the appropriate—red-hot—temperature</li> <li>prepare the animal for branding</li> <li>apply a branding iron to create a brand marking</li> <li>document branding information, and record it in an animal record system</li> <li>read a brand, and determine its meaning and correct marking</li> </ul>	<p>The use of brands varies with cattle types.</p> <p>Standards/protocol for branding are set by the Alberta Cattle Breeders' Association.</p> <p>Visual inspection is generally the method used to determine readiness of a branding iron for use.</p> <p>In preparing an animal for branding:</p> <ul style="list-style-type: none"> <li>the correct location for branding is selected</li> <li>the animal's hair is clipped in the area to be branded</li> <li>the area is exposed, if the animal is in a cattle squeeze</li> <li>the animal's hair is dry.</li> </ul> <p>Branding is effective when the brand can be read easily and when it matches the animal's ownership.</p>
<ul style="list-style-type: none"> <li>Shipping</li> </ul>	<ul style="list-style-type: none"> <li>identify and describe the key features of a livestock manifest</li> <li>describe basic rules/procedures governing the use of manifests</li> <li>obtain weigh scale tickets from a livestock manifest</li> <li>identify and describe information needed to complete a manifest that will accompany a shipment</li> <li>check for cattle identification, and verify with shipment and processing record sheets, where appropriate</li> <li>define and describe "close out"</li> <li>perform a close-out procedure</li> </ul>	<p>Alberta laws regulate the use and administration of cattle manifests.</p> <p>"Close out" is a business practice that includes:</p> <ul style="list-style-type: none"> <li>accounting procedures</li> <li>performance documents</li> <li>management documents.</li> </ul>
(continued)		

**Course: Handling Feedlot Cattle 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
(continued)	<i>The student will:</i>	
<ul style="list-style-type: none"> <li>Shipping</li> </ul>	<ul style="list-style-type: none"> <li>identify the destination for cattle to be shipped, and verify the destination on the manifest</li> <li>communicate with an approved trucker to ensure that correct processing instructions are followed</li> </ul>	<p>Close-out procedures vary among feedlot operations.</p>
<ul style="list-style-type: none"> <li>Parasite Controls</li> </ul>	<ul style="list-style-type: none"> <li>define parasite and insecticide</li> <li>describe the effects of parasites</li> <li>list and describe the main external parasites that can be treated at induction</li> <li>identify and describe hazards associated with parasite insecticides</li> <li>describe procedures to minimize the hazards associated with insecticide use</li> <li>describe marketing regulations associated with parasite insecticides</li> <li>describe general practices related to the use of insecticides, in the context of: <ul style="list-style-type: none"> <li>concentration</li> <li>dosage</li> <li>application</li> <li>time of year</li> <li>age of cattle</li> </ul> </li> <li>identify and explain the purpose of the insecticides that are available on a feedlot</li> <li>apply different insecticides in the appropriate manner and for the appropriate purpose</li> </ul>	<p>Parasites affecting cattle include:</p> <ul style="list-style-type: none"> <li>flies</li> <li>warbles</li> <li>lice</li> <li>worms.</li> </ul> <p>Hazard prevention when using insecticides may include wearing appropriate personal protective equipment; e.g., gloves, goggles and aprons.</p> <p>Marketing regulations for insecticides vary with different products.</p> <p>Students must be able to read, interpret and follow the manufacturer's instructions before being permitted to administer/use any insecticide.</p> <p>Insecticide application methods include:</p> <ul style="list-style-type: none"> <li>drench</li> <li>injection</li> <li>pour-on</li> <li>spot-on</li> <li>powder.</li> </ul>

**Course: Handling Feedlot Cattle 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> <li>Dehorning</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>identify and describe the alternative practices and techniques commonly used for dehorning</li> <li>describe the optimum age for dehorning</li> <li>explain the reasons for dehorning calves</li> <li>identify and describe possible hazards, to the operator and to the animal, associated with dehorning</li> <li>identify dehorning techniques that will minimize injury or damage</li> <li>restrain the animal, and perform the horn removal procedure</li> <li>describe post-dehorning complications that may arise</li> <li>monitor the calf for signs of ill health after dehorning</li> </ul>	<p>Dehorning is performed:</p> <ul style="list-style-type: none"> <li>to protect other animals</li> <li>to protect operators</li> <li>for aesthetics.</li> </ul> <p>Tools used to dehorn cattle include:</p> <ul style="list-style-type: none"> <li>gougers</li> <li>paste</li> <li>electric dehorner.</li> </ul> <p>Dehorning hazards include:</p> <ul style="list-style-type: none"> <li>handling rambunctious animals</li> <li>operator can be cut, burned or poisoned</li> <li>misapplied paste may cause skin burns on the animal.</li> </ul> <p>Correct dehorning procedure includes:</p> <ul style="list-style-type: none"> <li>proper restraint of the animal</li> <li>sure, confident handling of tools and equipment</li> <li>minimizing stress to the animal</li> <li>ensuring the animal is in good condition before dehorning</li> <li>removing only essential horn material.</li> </ul> <p>Proper restraint includes:</p> <ul style="list-style-type: none"> <li>holding the animal for the operation, with concern for its welfare</li> <li>performing work quickly and efficiently</li> <li>minimizing stress to the animal</li> <li>maintaining proper cleanliness and sanitation.</li> </ul> <p>Potential complications include:</p> <ul style="list-style-type: none"> <li>excessive blood loss</li> <li>not removing all horn-producing tissue</li> <li>infection or parasite infestation</li> <li>shock.</li> </ul>

**Course: Handling Feedlot Cattle 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> <li>• Castration</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>• identify and describe how the castration by elastrator technique works</li> <li>• describe the purpose of castration</li> <li>• restrain the animal properly prior to castration</li> <li>• perform castrations correctly, using the elastrator</li> <li>• identify and describe potential post-operative complications, and monitor regularly</li> <li>• monitor castrated animals for possible problems.</li> </ul>	<p>A castrated bull is referred to as a steer.</p> <p>When performing this technique, appropriate sanitation and cleanliness, and concern for the animal's welfare, need to be maintained.</p>
<p>Maintaining Facilities</p> <ul style="list-style-type: none"> <li>• Housekeeping</li> <li>• Safe Work Habits</li> </ul>	<ul style="list-style-type: none"> <li>• monitor work and cattle areas on a feedlot, and regularly pick up litter and other waste materials</li> <li>• perform clean-up duties after each activity to ensure an appropriate level of cleanliness and orderliness</li> <li>• maintain basic cleanliness of vehicles, including trucks and tractors</li> <li>• identify types of personal hazards associated with operating machinery and parked equipment</li> <li>• identify and describe examples of unsafe clothing when working with farm machinery and farm chemicals</li> <li>• identify, describe and demonstrate proper use of personal protective equipment (PPE) when working with farm machinery and farm chemicals</li> <li>• demonstrate the ability to maintain tools and work areas in a clean and safe condition</li> <li>• locate and ensure the accessibility of fire fighting equipment, a first-aid kit and other safety equipment</li> </ul>	<p>PPE includes:</p> <ul style="list-style-type: none"> <li>• earplugs</li> <li>• eye protection devices</li> <li>• dust protectors.</li> </ul>

**Course: Handling Feedlot Cattle 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> <li>First Aid</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>perform cardiopulmonary resuscitation (CPR)</li> <li>aid a choking victim</li> <li>treat severe bleeding</li> <li>handle shock.</li> </ul>	<p>Students should have completed or be in the process of completing the emergency first aid course, which is a component of CTR1210: Personal Safety (Management).</p>
<p>Personal Work Skills</p>	<ul style="list-style-type: none"> <li>demonstrate employability skills, including: <ul style="list-style-type: none"> <li>verbal and nonverbal communication</li> <li>goal setting and career planning</li> <li>time management</li> <li>basic financial management.</li> </ul> </li> </ul>	<p>Students should be advised that their personal work skills will be expected to improve throughout their involvement in the Green Certificate Program.</p> <p>Assessment of personal work skills will be based on growth from previous assessments of personal work skills.</p>







**Course: Feedlot Cattle Care and Feeding 33 (continued)**

Prescribed General Outcomes	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>– recognizing, handling and administering medicinal drugs</li> <li>• perform pen-checking duties, including: <ul style="list-style-type: none"> <li>– checking cattle for signs of abnormalities</li> <li>– inspecting feed bunks, waterers and pen facilities</li> <li>– pulling cattle from pens</li> </ul> </li> <li>• feed cattle, by: <ul style="list-style-type: none"> <li>– demonstrating basic knowledge of a feed management plan</li> <li>– assessing feeding rations and feed quality standards</li> <li>– carrying out a feeding protocol</li> <li>– receiving feedstuffs</li> </ul> </li> <li>• prepare and maintain bedding</li> <li>• demonstrate effective and appropriate employability skills.</li> </ul>		<p>15%</p> <p>15%</p> <p>10%</p> <p>10%</p>

**Course: Feedlot Cattle Care and Feeding 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
<p>Cattle Processing and Handling</p> <ul style="list-style-type: none"> <li>• Feedlot Cattle Types</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>• describe the main distinguishing characteristics, including physical characteristics and feeding performance, of each sex class of cattle found on a feedlot: <ul style="list-style-type: none"> <li>– steers</li> <li>– heifers</li> <li>– cows</li> <li>– virgin bulls</li> </ul> </li> <li>• describe the main distinguishing characteristics, including physical characteristics and feeding performance, of cattle found on a feedlot, including: <ul style="list-style-type: none"> <li>– calves</li> <li>– yearlings</li> <li>– heifers</li> <li>– cows</li> <li>– short keeps</li> <li>– backgrounders</li> <li>– fed cattle</li> <li>– British breeds <ul style="list-style-type: none"> <li>• new style</li> <li>• old style</li> </ul> </li> <li>– exotics <ul style="list-style-type: none"> <li>• 1<sup>st</sup></li> <li>• 2<sup>nd</sup></li> <li>• 3<sup>rd</sup></li> <li>• cut</li> </ul> </li> <li>– dairy crosses</li> </ul> </li> </ul>	<p>Students should be sensitive to the jargon of the feedlot, including verbal and written terms used to distinguish cattle based on:</p> <ul style="list-style-type: none"> <li>• age</li> <li>• frame</li> <li>• size</li> <li>• weight</li> <li>• sex.</li> </ul>
<ul style="list-style-type: none"> <li>• Cattle Quality Assessment</li> </ul>	<ul style="list-style-type: none"> <li>• explain the meaning of uniformity in assessing cattle</li> <li>• assess cattle for their uniformity</li> <li>• explain the meaning of condition in assessing cattle</li> </ul>	<p>The term uniformity is used to describe the common characteristics of a load of cattle of a specific breed, including:</p> <ul style="list-style-type: none"> <li>• condition</li> <li>• health</li> <li>• sex</li> <li>• size.</li> </ul>
(continued)		

**Course: Feedlot Cattle Care and Feeding 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
(continued)	<i>The student will:</i>	
<ul style="list-style-type: none"> <li>Cattle Quality Assessment</li> </ul>	<ul style="list-style-type: none"> <li>assess cattle based on their condition</li> <li>explain the meaning of “dogs” in assessing cattle</li> <li>assess a group of animals and pick out the “dogs”</li> <li>describe the buying order as it was intended</li> <li>assess a load of incoming cattle to determine if the intent was successful</li> <li>inform the supervisor/manager of any irregularities identified</li> </ul>	<p>The term condition is used to identify if cattle are stale or fresh.</p> <p>The term “dogs” is used to describe undesirable cattle.</p> <p>The “buying order as intended” refers to the breeds and types of cattle a feedlot operator wanted to purchase.</p> <p>In assessing if the buyer received what was intended, the technician must be able to match the written buy order for cattle with the cattle actually received.</p>
<ul style="list-style-type: none"> <li>Market and Grading Systems</li> </ul>	<ul style="list-style-type: none"> <li>identify basic categories of the cattle grading system</li> <li>describe the main distinguishing characteristics of each category</li> <li>explain the term shrinkage</li> <li>describe the negotiated standards applied to shrinkage</li> <li>explain the term yield</li> <li>describe how an animal’s yield is determined</li> <li>explain the meaning of the term railer</li> <li>describe the process of handling and marketing railers</li> <li>read and interpret jargon and data contained in cattle market summaries and reports</li> <li>identify and describe various ways in which cattle are supplied to the market</li> <li>identify and describe the activities and marketing practices of common local or regional auction marts</li> </ul>	<p>Main categories include:</p> <ul style="list-style-type: none"> <li>A, AA, AAA—amount of marbling</li> <li>1, 2, 3, 4—millimetres of fat</li> <li>B1, B2, B3, B4—quality of carcass</li> <li>E—bulls</li> <li>D1, D2—cows.</li> </ul> <p>Shrinkage refers to the loss of weight of an animal during the various stages of its marketing.</p> <p>Yield refers to the amount of meat that can be obtained per live animal. Yield is based on a percentage of the animal’s weight.</p> <p>Railers are substandard animals. An animal may be determined a railer if it is crippled, diseased or foundering.</p> <p>Railers are categorized as “rail graded” or “subject rail”.</p>
(continued)		



**Course: Feedlot Cattle Care and Feeding 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
<p>(continued)</p> <ul style="list-style-type: none"> <li>Market and Grading Systems</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>identify and describe key characteristics of selling mechanisms, including: <ul style="list-style-type: none"> <li>preselling by contract</li> <li>sealed-tender bidding</li> <li>auction selling</li> <li>open bidding</li> <li>private sales</li> <li>community pasture sales.</li> </ul> </li> </ul>	
<p>Treating Cattle</p> <ul style="list-style-type: none"> <li>Anatomy and Physiology</li> </ul>	<ul style="list-style-type: none"> <li>identify and describe the basic structure/anatomy of cattle's: <ul style="list-style-type: none"> <li>body, neck and head areas</li> <li>feet and legs</li> <li>digestive tract</li> </ul> </li> <li>identify and describe the function/physiology of the body, neck and head areas of cattle</li> <li>describe the basic muscle structure of cattle, and relate this structure to: <ul style="list-style-type: none"> <li>locations for injections</li> <li>locations for implants</li> </ul> </li> <li>outline the stages of the rumination and digestion processes</li> <li>name each of the stomachs found in cattle</li> <li>describe the function of each of the four stomachs found in cattle</li> </ul>	<p>The four stomachs of cattle, and their functions, include:</p> <ul style="list-style-type: none"> <li>rumen—holds feed, and bacterial action begins</li> <li>reticulum—removes water</li> <li>omasum—additional grinding of food</li> <li>abomasum—"true stomach" in which absorption of food occurs.</li> </ul>
<ul style="list-style-type: none"> <li>Feedlot Diseases, Disorders and Parasites</li> </ul>	<ul style="list-style-type: none"> <li>describe the nature and symptoms of diseases affecting cattle's: <ul style="list-style-type: none"> <li>respiratory system</li> <li>digestive system</li> <li>nervous system</li> </ul> </li> <li>describe cattle diseases and disorders commonly affecting: <ul style="list-style-type: none"> <li>eyes</li> <li>feet and legs</li> <li>skin</li> </ul> </li> </ul>	<p>Respiratory system disease:</p> <ul style="list-style-type: none"> <li>influenza (flu)</li> </ul> <p>Symptoms: fever, cough, rapid breathing.</p> <p>Digestive system diseases:</p> <ul style="list-style-type: none"> <li>bloat</li> </ul> <p>Symptoms: excess gas, swollen rumen, stiff legged, large swelling on left side.</p> <ul style="list-style-type: none"> <li>rumen overload</li> </ul> <p>Symptoms: abnormal manure texture, staggering animal.</p>
(continued)		

**Course: Feedlot Cattle Care and Feeding 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
<p>(continued)</p> <ul style="list-style-type: none"> <li>Feedlot Diseases, Disorders and Parasites</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>describe common internal and external parasitic disorders</li> <li>describe symptoms and/or indicators of parasitic disorders</li> </ul>	<p>Nervous system diseases:</p> <ul style="list-style-type: none"> <li>polio-like condition in calves</li> </ul> <p>Symptom: staggering gait.</p> <p>Eye infections include:</p> <ul style="list-style-type: none"> <li>pink eye, inflammation, watering, discharges.</li> </ul> <p>Feet/leg diseases/disorders include:</p> <ul style="list-style-type: none"> <li>foot rot, caused by bacterial infection</li> <li>bruising</li> <li>cracks/wounds to hooves.</li> </ul> <p>Skin-related disorders include:</p> <ul style="list-style-type: none"> <li>warts, caused by viruses</li> <li>mange</li> <li>cuts.</li> </ul> <p>Parasitic conditions include:</p> <ul style="list-style-type: none"> <li>internal—worms, warbles</li> <li>external—lice, ringworm, flies, mites.</li> </ul>
<ul style="list-style-type: none"> <li>Taking an Animal's Temperature</li> </ul>	<ul style="list-style-type: none"> <li>identify and describe the normal temperature of cattle</li> <li>describe possible variations in cattle temperature</li> <li>explain why there may be temperature variations</li> <li>prepare a thermometer probe for rectal insertion into an animal</li> <li>retain the probe in the animal for the correct insertion period</li> <li>remove the probe, and read the animal's temperature</li> <li>use a temperature conversion scale, as necessary</li> </ul>	<p>The normal temperature of cattle is 38.6°C or 101.5° F.</p> <p>Before inserting the thermometer probe, the student should shake the thermometer reading to zero.</p>

**Course: Feedlot Cattle Care and Feeding 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> <li>Drug Treatment Protocols</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>identify and describe the feedlot's induction protocol</li> <li>identify and describe the feedlot's drug treatment protocol</li> <li>identify and describe the feedlot's drug application in the treatment protocol</li> <li>identify and describe the feedlot's posttreatment protocol(s)</li> <li>identify and describe the procedures to follow when progressive treatments for a disorder are required</li> <li>identify and describe drug withdrawal requirements that are part of individual treatment protocols</li> <li>identify and describe the protocol to follow in a wreck or untreatable situation</li> <li>describe the components/elements of an effective drug treatment protocol record-keeping system</li> <li>describe the purpose and importance of maintaining an appropriate record-keeping system that includes: <ul style="list-style-type: none"> <li>animal identification</li> <li>type of condition—disease, disorder, parasite</li> <li>date of observing condition</li> <li>date of first treatment</li> <li>drug(s) used</li> <li>drug dosage</li> <li>drug-use method</li> <li>outcome</li> <li>remarks</li> <li>staff providing treatment</li> </ul> </li> </ul>	<p>Treatment protocols may include information about:</p> <ul style="list-style-type: none"> <li>drugs to be used for various diseases, disorders, infections</li> <li>dosages of drugs</li> <li>withdrawal time for each drug</li> <li>application method for each drug</li> <li>treatment-related feeding rations</li> <li>handling sick cattle</li> <li>follow-up treatments.</li> </ul> <p>Protocol for dealing with wrecks include how untreatable animals are handled, shipped and marketed.</p>
<ul style="list-style-type: none"> <li>Handling Medications</li> </ul> <p>(continued)</p>	<ul style="list-style-type: none"> <li>describe types of medication used, including: <ul style="list-style-type: none"> <li>vaccines</li> <li>antibiotics</li> <li>implants</li> </ul> </li> <li>describe correct methods for handling each type of medication</li> </ul>	<p>Correct handling and storage of drugs is important to a feedlot's operation.</p>

**Course: Feedlot Cattle Care and Feeding 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
<p>(continued)</p> <ul style="list-style-type: none"> <li>Handling Medications</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>read and interpret drug labels to determine: <ul style="list-style-type: none"> <li>correct dosage</li> <li>method of administration</li> <li>site of administration</li> <li>frequency of administration</li> <li>expiration date</li> <li>storage instructions</li> <li>disposal protocol</li> </ul> </li> <li>explain the meaning and importance of drug withdrawal</li> <li>identify and interpret the feedlot's protocol for drug withdrawal</li> <li>identify and describe potential contamination hazards associated with each type of available medication</li> <li>describe techniques to minimize potential contamination</li> <li>operate the necessary treatment or health protocol system for individual animals or pens of animals</li> <li>identify the feedlot's inventory management system for drugs</li> <li>perform appropriate inventory management of drugs</li> <li>identify and describe hazards, to operators and to animals, of handling and storing drugs</li> <li>describe and demonstrate correct procedures for handling and storing drugs to minimize hazards</li> </ul>	<p>A regular inventory of drugs ensures that regularly used drugs are always readily available. In addition, the drugs must be stored under appropriate conditions as specified by the manufacturers; e.g., refrigerated, minimum light.</p> <p>Operators must take care to accurately follow dosage and administration instructions and not accidentally inject themselves when vaccinating animals.</p>
<ul style="list-style-type: none"> <li>Administering Animal Treatment Drugs</li> </ul> <p>(continued)</p>	<ul style="list-style-type: none"> <li>identify and describe the basic methods of administering animal medications</li> <li>ensure that treatments match feedlot treatment protocol</li> <li>identify and describe types and sizes of syringes and needles used to treat animals</li> <li>select the correct size of syringe and needle to perform specific treatments</li> </ul>	<p>Animal medications may be administered:</p> <ul style="list-style-type: none"> <li>orally</li> <li>by injection</li> <li>by implants</li> <li>by topical/surface application.</li> </ul>

**Course: Feedlot Cattle Care and Feeding 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
<p>(continued)</p> <ul style="list-style-type: none"> <li>Administering Animal Treatment Drugs</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>identify, describe and demonstrate appropriate cleaning, sanitizing and sterilizing procedures when performing animal treatments</li> <li>interpret feedlot protocol, determine appropriate drug dosages, and administer specific medications.</li> </ul>	<p>Cleanliness, sanitation and sterilization procedures are essential in ensuring that infections and contamination are minimized.</p>
<p>Pen Checking</p> <ul style="list-style-type: none"> <li>Sickness and Disorders</li> </ul>	<ul style="list-style-type: none"> <li>describe the feedlot's protocol for entering a pen and checking cattle</li> <li>identify and describe what is visually evident when viewing an animal standing still</li> <li>identify and describe observed disorders and abnormalities</li> <li>identify and describe methods used to check the respiratory condition of cattle: <ul style="list-style-type: none"> <li>observation</li> <li>stethoscope</li> </ul> </li> <li>identify signs of normal health and of disorder, by viewing an animal's coat and gut fill</li> <li>identify and describe signs of dehydration</li> <li>identify and describe signs of normal health and signs of disorder in animal movements, noises and walking characteristics, with animals in a pen situation</li> <li>identify and describe signs of normal/ abnormal health, by observing an animal's manure and urine</li> <li>inspect a group of animals, and determine if an abnormality is limited to one animal or is evident in many animals</li> </ul>	<p>Visual inspections should include:</p> <ul style="list-style-type: none"> <li>ears</li> <li>nose</li> <li>mouth</li> <li>eyes</li> <li>head position</li> <li>stance.</li> </ul> <p>Respiratory abnormalities include breathing rate and breath vapor.</p> <p>A rough animal coat and sunken areas may indicate an illness.</p> <p>An animal may be dehydrated if it has sunken eyes and a shallow breathing rate.</p> <p>Abnormalities of animals in pens may include:</p> <ul style="list-style-type: none"> <li>animal noises</li> <li>eating behaviour</li> <li>way of walking</li> <li>lying position</li> <li>standing and stretching behaviour.</li> </ul>



**Course: Feedlot Cattle Care and Feeding 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> <li>Facility and Equipment Inspections</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>identify and describe feedlot standards for inspecting bunks</li> <li>identify key components of the feedlot's watering system</li> <li>identify and describe waterer components requiring regular inspection</li> <li>perform minor servicing of waterers</li> <li>identify and describe key areas to inspect in cattle pen facilities</li> <li>identify, describe and demonstrate appropriate reporting procedures when problems are identified while checking equipment and areas</li> </ul>	<p>Feed bunks must be checked for:</p> <ul style="list-style-type: none"> <li>correctness with yard sheet</li> <li>waste</li> <li>spillage</li> <li>spoiled feed.</li> </ul> <p>Waterers must be checked for:</p> <ul style="list-style-type: none"> <li>operating water supply</li> <li>freezing</li> <li>cleanliness</li> <li>overflows.</li> </ul> <p>Cattle pens must be checked for:</p> <ul style="list-style-type: none"> <li>damaged fences</li> <li>unlocked/damaged gates</li> <li>manure buildup</li> <li>bedding conditions.</li> </ul>
<ul style="list-style-type: none"> <li>Pulling Cattle</li> </ul>	<ul style="list-style-type: none"> <li>describe the process and purpose of pulling cattle</li> <li>identify and describe hazards associated with pulling cattle</li> <li>identify methods to minimize the hazards of pulling cattle</li> <li>describe situations where pulling cattle may be required</li> <li>select and pull an animal out of the group, and remove it from the pen</li> <li>maintain the animal's identification for pulling action until the necessary treatment has been completed.</li> </ul>	<p>Sick animals may be pulled from a pen in order to treat them. In pulling an animal, care must be taken to minimize the animal's stress level.</p> <p>When an animal is pulled, a pen sick tag is usually inserted to ensure that all related information about the animal is maintained and recorded in appropriate documentation.</p>
<p>Cattle Feeding</p> <ul style="list-style-type: none"> <li>Feed Management Plan</li> </ul> <p>(continued)</p>	<ul style="list-style-type: none"> <li>identify and describe different rations used in the feedlot</li> <li>describe the components and general proportions of rations used</li> </ul>	<p>Feedstuffs include:</p> <ul style="list-style-type: none"> <li>grain silage</li> <li>processed grains</li> <li>hay</li> <li>legumes</li> <li>by-products.</li> </ul>

**Course: Feedlot Cattle Care and Feeding 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
(continued)	<i>The student will:</i>	
<ul style="list-style-type: none"> <li>Feed Management Plan</li> </ul>	<ul style="list-style-type: none"> <li>describe the “step-up” process by which general rations are used</li> <li>describe the purpose of a feed/yard sheet</li> <li>identify and describe information contained in a typical feed/yard sheet</li> <li>read and interpret a feed/yard sheet</li> <li>read and interpret a master recipe sheet</li> </ul>	<p>Ration categories include:</p> <ul style="list-style-type: none"> <li>starter</li> <li>grower</li> <li>finisher.</li> </ul> <p>High energy rations contain 90% concentrate and 10% roughage.</p> <p>Low energy rations contain 10% concentrate and 90% roughage.</p>
<ul style="list-style-type: none"> <li>Quality Rations</li> </ul>	<ul style="list-style-type: none"> <li>assess the correctness of a prepared ration being delivered to a pen</li> <li>check a feed sample and assess it for: <ul style="list-style-type: none"> <li>correct processing and mixing</li> <li>spoilage</li> <li>dustiness</li> <li>contamination</li> </ul> </li> </ul>	<p>In assessing the correctness of a feed ration, students will be required to:</p> <ul style="list-style-type: none"> <li>perform a visual check of the feed</li> <li>check that the feed conforms with what is on the feed sheet</li> <li>check that the feed is correctly mixed</li> <li>check that the feed is free from mould and other contaminants.</li> </ul>
<ul style="list-style-type: none"> <li>Feeding Protocol</li> </ul>	<ul style="list-style-type: none"> <li>conduct a pre-feeding inspection of feed bunks</li> <li>determine the feedlot’s protocol for the sequence of feeding work that is done during a regular day’s work</li> <li>identify and incorporate special instructions into a feeding protocol</li> <li>identify and describe special routines followed for: <ul style="list-style-type: none"> <li>new cattle arrivals</li> <li>sick pen animals</li> </ul> </li> <li>communicate effectively with other staff, and incorporate their input into a daily routine</li> </ul>	<p>Pre-feeding inspection may include checking that feed bunks are partially full or completely empty.</p> <p>Special routines are determined by management and communicated to technicians.</p> <p>Other staff may provide information about such things as the health of specific animals and feeding abnormalities.</p>
<ul style="list-style-type: none"> <li>Receiving Feedstuffs</li> </ul>	<ul style="list-style-type: none"> <li>inspect a load of feedstuffs, and visually assess the quality of the feedstuffs being delivered to a feedlot</li> <li>perform moisture checks of delivered feedstuffs, as necessary and as directed</li> </ul>	
(continued)		

**Course: Feedlot Cattle Care and Feeding 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
<p>(continued)</p> <ul style="list-style-type: none"> <li>Receiving Feedstuffs</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>identify correct storage locations for different types of feedstuffs</li> <li>operate unloading equipment to unload and store feedstuffs</li> <li>identify and describe documentation used to record receipt of feedstuffs</li> <li>complete the necessary receiving documentation for feedstuffs.</li> </ul>	
Bedding	<ul style="list-style-type: none"> <li>explain the purpose of bedding</li> <li>describe “tag”</li> <li>identify and describe feedlot policy regarding bedding up pens</li> <li>describe the types of materials used as bedding</li> <li>assess the volume/quantity of bedding required for each pen</li> <li>operate loaders and trucks safely during bedding operations</li> <li>perform bedding operations in a pen containing cattle</li> <li>place bedding in appropriate areas, and shape it as directed/appropriate</li> <li>explain the frequency of or conditions affecting adding to bedding.</li> </ul>	<p>Bedding is both the process and material used to facilitate cattle's comfort.</p> <p>Typical bedding materials include manure, straw and wood chips.</p>
Personal Work Skills	<ul style="list-style-type: none"> <li>demonstrate employability skills, including: <ul style="list-style-type: none"> <li>verbal and nonverbal communication</li> <li>goal setting and career planning</li> <li>time management</li> <li>basic financial management.</li> </ul> </li> </ul>	<p>Students should be advised that their personal work skills will be expected to improve throughout their involvement in the Green Certificate Program.</p> <p>Assessment of personal work skills will be based on growth from previous assessments of personal work skills.</p>

**Course:** Feedlot Support Systems 33

**Program:** Green Certificate

**Credits:** 5

**Corequisite:** CTR1210: Personal Safety (Management)

**Note:** Students are required to complete the corequisite course prior to or concurrent with their enrollment in the first course of the Feedlot Beef Production Technician specialization.

**Description:** Students demonstrate the ability to operate livestock handling equipment, including a cattle weigh scale; feed cattle; operate a feed truck, and service equipment; use operator manuals; demonstrate knowledge of road travel regulations; operate trucks and operate tractors with front-end loaders; perform routine truck servicing; use fire extinguishers and basic hand and power tools; repair fences and corrals; and demonstrate effective and appropriate employability skills.

**Parameters:** Each of the three courses that constitute the Feedlot Beef Production Technician specialization is designed to be delivered off campus. The annual inspection and approval of the work station, and the monitoring, supervision and assessment of each student's progress and performance must be done in accordance with the procedures specified in the Off-Campus Education policy.

#### Curriculum and Assessment Standards

Prescribed General Outcomes	Assessment Criteria and Conditions	Suggested Emphasis
<i>The student will:</i> <ul style="list-style-type: none"><li>process and handle cattle, by:<ul style="list-style-type: none"><li>operating livestock handling equipment</li><li>operating a cattle weigh scale</li></ul></li><li>feed cattle, by operating and maintaining feed mixers and feed trucks</li><li>operate and service equipment, by:<ul style="list-style-type: none"><li>using operator manuals</li><li>demonstrating knowledge of road travel regulations</li><li>operating trucks on roads</li></ul></li></ul>	<i>Assessment of student achievement should be based on:</i> <ul style="list-style-type: none"><li>ongoing assessment of student performance, which is conducted:<ul style="list-style-type: none"><li>on a daily basis by the student's on-farm trainer in regular consultation with the student's supervising teacher</li></ul></li><li>certification testing, which is conducted by a Green Certificate Assessor designated by AAFRD and includes:<ul style="list-style-type: none"><li>a performance assessment of practical knowledge and skills</li><li>a written examination.</li></ul></li></ul> <p>Successful completion of this course will be credited toward the attainment of the Feedlot Beef Production Green Certificate Technician credential.</p>	25%  25%  40%

**Course: Feedlot Support Systems 33 (continued)**

Prescribed General Outcomes	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>– performing routine truck servicing</li> <li>– selecting and using fire extinguishers</li> <li>– selecting and using basic hand tools</li> <li>– selecting and using power tools</li> <li>– repairing fences and corrals</li> <li>– operating tractors with front-end loaders</li> </ul> <ul style="list-style-type: none"> <li>• demonstrate effective and appropriate employability skills.</li> </ul>		<p>10%</p>



Course: Feedlot Support Systems 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
<p>Cattle Processing and Handling</p> <ul style="list-style-type: none"> <li>Livestock Handling Equipment</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>describe handler control factors contributing to good cattle handling</li> <li>describe the purpose of a cattle squeeze</li> <li>demonstrate the proper use of a cattle squeeze</li> <li>demonstrate the correct selection of cattle handling aids, including squeezes, prods and whips</li> <li>demonstrate the appropriate use of handling aids when moving cattle in a variety of situations</li> <li>identify personal hazards associated with moving cattle</li> <li>describe techniques used to minimize personal hazards when moving cattle</li> <li>identify and describe hazards to animal health associated with common handling events and activities</li> </ul>	<p>Handler control factors include:</p> <ul style="list-style-type: none"> <li>limiting body movements</li> <li>minimizing noise level</li> <li>showing patience, care and concern</li> <li>showing respect for an animal's safety</li> <li>minimizing animal stress.</li> </ul> <p>Personal hazards include being:</p> <ul style="list-style-type: none"> <li>kicked</li> <li>butted</li> <li>stepped on.</li> </ul> <p>Hazards to animals include respiratory distress and injuries to legs, tails, faces, eyes and jaws.</p>
<ul style="list-style-type: none"> <li>Weigh Scales</li> </ul>	<ul style="list-style-type: none"> <li>list and describe components of a weigh scale</li> <li>describe the operational function of key components of a weigh scale</li> <li>describe the limits of available scales</li> <li>describe hazards associated with using a weigh scale</li> <li>describe procedures that may minimize potential hazards when using a weigh scale</li> <li>prepare a weigh scale for correct operation, including: <ul style="list-style-type: none"> <li>balancing the scale</li> <li>maintaining cleanliness of the scale</li> </ul> </li> <li>demonstrate correct operating procedure for available weigh scales</li> <li>describe key features of accurate scale operation</li> </ul>	
(continued)		

**Course: Feedlot Support Systems 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
(continued) <ul style="list-style-type: none"> <li>• Weigh Scales</li> </ul>	<i>The student will:</i> <ul style="list-style-type: none"> <li>• perform weight-recording procedures, as necessary.</li> </ul>	
Cattle Feeding <ul style="list-style-type: none"> <li>• Feed Mixers and Feed Trucks</li> </ul>	<ul style="list-style-type: none"> <li>• describe the purpose of a cattle feed mixer</li> <li>• identify components of a cattle feed mixer, including its cab controls</li> <li>• describe the purpose of each major component of a cattle feed mixer</li> <li>• identify hazards associated with operating a feed mixer</li> <li>• identify, describe and demonstrate techniques to minimize the hazards of operating a feed mixer</li> <li>• identify components of a feed mixer that require regular checking</li> <li>• perform a regular check of a feed mixer</li> <li>• perform a check of a feed mixer prior to start-up</li> <li>• balance the scale, if one is built-in, and check for its correct operation</li> <li>• follow the feedlot's feeding protocol</li> <li>• identify and describe load mixer limits for different rations, using the feeding plan</li> <li>• load proper quantities of feedstuffs, following feedlot practices</li> <li>• operate the feed mixer to complete an appropriate ration mix</li> <li>• operate the mixer truck on feed alleys and on roadways</li> </ul>	<p>Components of a feed mixer include:</p> <ul style="list-style-type: none"> <li>• chains</li> <li>• auger</li> <li>• discharge</li> <li>• weigh scale.</li> </ul> <p>Feed mixer controls may be hydraulic or electric.</p> <p>Students should read and follow the equipment manufacturer's instruction manual before attempting to perform an equipment check or routine service to a feed mixer or mixer truck.</p>
(continued)		

**Course: Feedlot Support Systems 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
<p>(continued)</p> <ul style="list-style-type: none"> <li>Feed Mixers and Feed Trucks</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>record feeding data, including the amount delivered to each pen, following the feedlot's management practices</li> <li>identify areas on feed mixer equipment that require service</li> <li>perform routine service and lubrication duties on feed mixer equipment</li> <li>identify areas on a mixer truck that require service</li> <li>perform routine service and lubrication duties on a mixer truck.</li> </ul>	
<p>Equipment and Facilities</p> <ul style="list-style-type: none"> <li>Operator Manuals</li> </ul> <ul style="list-style-type: none"> <li>Road Travel Regulations</li> </ul>	<ul style="list-style-type: none"> <li>describe the key purposes and basic organization of farm equipment operator manuals</li> <li>identify relevant sections of various operator manuals</li> <li>read and interpret the instructions provided</li> <li>identify correct storage locations for the feedlot's operator manuals</li> <li>return manuals consistently to their correct storage locations</li> </ul> <ul style="list-style-type: none"> <li>identify and describe lighting requirements for a tractor and towed equipment on public roads</li> <li>identify and describe the signage for slow moving farm equipment</li> <li>describe the weight restriction road ban system as it relates to tractor operations</li> <li>identify operator qualifications and licencing requirements for tractors operating on public roads</li> <li>identify and describe the requirements of ensuring clear visibility for the tractor operator and cleanliness standards for lights and licence plates</li> </ul>	<p>Farm equipment operator manuals generally provide the following information:</p> <ul style="list-style-type: none"> <li>parts list</li> <li>specifications</li> <li>servicing depots for the equipment</li> <li>sources of aids/additional supports</li> <li>warranty information.</li> </ul> <p><i>The Highway Traffic Act</i> applies to all vehicles, including farm vehicles.</p> <p><b>Note:</b> Driving a tractor with frosted windows is illegal.</p>

**Course: Feedlot Support Systems 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> <li>Truck Operations</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>identify situations where truck operators must have an appropriate class of operator's licence</li> <li>identify devices that warn of low air pressure in brakes</li> <li>explain possible consequences of low air pressure in brakes</li> <li>demonstrate correct braking procedures for:               <ul style="list-style-type: none"> <li>air brakes</li> <li>hydraulic brakes</li> </ul> </li> <li>identify the correct procedure for slowing a truck</li> <li>identify potential effects of cold weather conditions on air brakes</li> <li>interpret the manufacturer's signs/plates and recommendations</li> <li>identify load limitations for each truck</li> <li>identify and describe hazards associated with truck hoists</li> <li>demonstrate the correct operation of a hoist</li> <li>identify hazards associated with loading, supporting, carrying and unloading various farm commodities in trucks of differing sizes</li> <li>back up an unloaded farm vehicle</li> <li>operate trucks on soft ground</li> <li>operate trucks on hazardous pathways</li> <li>demonstrate:               <ul style="list-style-type: none"> <li>appropriate shifting and clutching procedures</li> <li>independent brake usage</li> <li>safe procedures for hooking up implements</li> <li>safe highway and roadway operations</li> </ul> </li> </ul>	<p>An operator's licence is not required to operate a vehicle on a farm or feedlot. However, students should be encouraged to successfully complete a driver-training program and earn an operator's licence prior to driving any vehicle under any conditions.</p>

**Course: Feedlot Support Systems 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> <li>Routine Truck Maintenance</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>identify and describe hazards associated with servicing a truck</li> <li>identify and describe types of available lubricating products for trucks</li> <li>explain the differences among and use of each type of lubricant</li> <li>check a truck's cooling system</li> <li>perform basic maintenance of a truck's cooling system</li> <li>check a truck's battery and electrical system</li> <li>perform basic maintenance services on electrical components</li> <li>check the condition of a truck's tires and wheels</li> <li>perform necessary service to tires and wheels</li> <li>check the condition of a truck's drivetrain</li> <li>perform basic service on the drivetrain</li> <li>check the condition of the air-cleaning system and fuel filters</li> <li>perform basic maintenance on air and fuel filters</li> <li>check the condition of a truck's braking system</li> <li>perform basic adjustments to a truck's braking system</li> <li>check the condition of belts and belt-driven components</li> <li>replace and service belts, as necessary</li> <li>perform a complete oil change and lubrication job</li> </ul>	



Course: Feedlot Support Systems 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> <li>Fire Extinguishers</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>describe the basic components of fire</li> <li>describe methods of controlling each component of fire</li> <li>identify and describe classes of fires</li> <li>identify the appropriate type of extinguisher material/fire extinguisher for each type of fire</li> <li>identify classes of fires possible: <ul style="list-style-type: none"> <li>on a truck or tractor</li> <li>in a farm shop</li> <li>in a livestock building</li> </ul> </li> <li>identify the hazardous areas and seasonal factors affecting fire risk: <ul style="list-style-type: none"> <li>on a truck or tractor</li> <li>in a farm shop</li> <li>in a livestock building</li> </ul> </li> <li>assess the cause or source of a fire, and take steps to prevent reignition</li> <li>identify locations of fire extinguishers</li> <li>determine the operating procedure for each type of fire extinguisher</li> <li>read fire extinguisher labels, and determine the active operational time of each fire extinguisher</li> </ul>	<p>Basic components are:</p> <ul style="list-style-type: none"> <li>fuel</li> <li>heat</li> <li>air.</li> </ul> <p>Classes of fires include:</p> <ul style="list-style-type: none"> <li>Class A—wood, crop residues. Use water to extinguish.</li> <li>Class B—oil, gas. Use CO<sub>2</sub> or approved chemical extinguishers.</li> <li>Class C—electrical. Use CO<sub>2</sub> or approved chemical extinguishers.</li> </ul>

Course: Feedlot Support Systems 33 (continued)

Concept	Prescribed Specific Outcomes	Notes
<ul style="list-style-type: none"> <li>Hand, Shop and Power Tools</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>identify different types and sizes of hand tools and accessories needed on a farm, including: <ul style="list-style-type: none"> <li>– screwdrivers</li> <li>– hammers</li> <li>– chisels</li> <li>– wrenches</li> <li>– pliers</li> <li>– cutters</li> <li>– rasps</li> </ul> </li> <li>describe and demonstrate the safe and correct use of each type of available hand tool and accessory</li> <li>demonstrate the correct selection and use of hacksaw blades for specific tasks</li> <li>identify different types of power tools commonly used on a farm</li> <li>describe hazards associated with each power tool</li> <li>demonstrate correct use of each available power tool</li> </ul>	<p>Screwdriver types include:</p> <ul style="list-style-type: none"> <li>• flat</li> <li>• Phillips</li> <li>• Robertson.</li> </ul> <p>Wrench types include:</p> <ul style="list-style-type: none"> <li>• box</li> <li>• open</li> <li>• adjustable</li> <li>• socket.</li> </ul> <p>Plier and cutter types include:</p> <ul style="list-style-type: none"> <li>• slip joint regular</li> <li>• pump type</li> <li>• side cutters</li> <li>• needle-nose</li> <li>• long-nose.</li> </ul> <p>Hammer types include:</p> <ul style="list-style-type: none"> <li>• nail</li> <li>• claw</li> <li>• ball-peen</li> <li>• mallets</li> <li>• sledge.</li> </ul> <p>Chisel types include:</p> <ul style="list-style-type: none"> <li>• cold</li> <li>• wood</li> <li>• punches</li> <li>• pin</li> <li>• centre drift.</li> </ul> <p>Rasp types include:</p> <ul style="list-style-type: none"> <li>• wood</li> <li>• metal</li> <li>• fine</li> <li>• coarse.</li> </ul>
<ul style="list-style-type: none"> <li>Fence and Corral Maintenance</li> </ul>	<ul style="list-style-type: none"> <li>identify and describe hazards associated with fencing</li> <li>describe procedures to minimize hazards</li> <li>demonstrate the correct selection, use and driving of staples to secure wire or insulators to a post</li> <li>demonstrate the correct selection and use of tools and supplies for repairing wooden fences and corrals</li> </ul>	<p>Safety hazards include:</p> <ul style="list-style-type: none"> <li>• breaking wire</li> <li>• hand/finger pinching by wire</li> <li>• back strain</li> <li>• footing/footwear.</li> </ul>
(continued)	<ul style="list-style-type: none"> <li>demonstrate safe procedures for preparing, placing and setting wooden posts</li> </ul>	

**Course: Feedlot Support Systems 33 (continued)**

Concept	Prescribed Specific Outcomes	Notes
<p>(continued)</p> <ul style="list-style-type: none"> <li>Fence and Corral Maintenance</li> <li>Tractors with Front-end Loaders</li> </ul>	<p><i>The student will:</i></p> <ul style="list-style-type: none"> <li>demonstrate the correct placement and setting of metal posts prior to driving them</li> <li>describe and demonstrate the correct construction of corner braces</li> <li>describe and demonstrate the correct use of wire in constructing or repairing fences</li> <li>describe hazards associated with operating a front-end loader</li> <li>identify precautions to be taken to minimize hazards</li> <li>identify items to be checked prior to starting a front-end loader</li> <li>demonstrate the safe and efficient operation of a front-end loader to carry out a farm task</li> <li>demonstrate safe and efficient procedures when working on front-end loader parts or on a tractor with an attached front-end loader.</li> </ul>	
<p>Personal Work Skills</p>	<ul style="list-style-type: none"> <li>demonstrate employability skills, including: <ul style="list-style-type: none"> <li>verbal and nonverbal communication</li> <li>goal setting and career planning</li> <li>time management</li> <li>basic financial management.</li> </ul> </li> </ul>	<p>Students should be advised that their personal work skills will be expected to improve throughout their involvement in the Green Certificate Program.</p> <p>Assessment of personal work skills will be based on growth from previous assessments of personal work skills.</p>

## RESOURCES

The Green Certificate Program is supported by a variety of resources, including:

- *Off-campus Education Guide for Administrators, Counsellors and Teachers*, Alberta Education, 1997
- *Career Transitions Guide to Standards and Implementation*, Alberta Education, 1997
- *Beef Herd Operations: Cow-Calf Production Technician Skill Profile and Performance Standards*, AAFRD, Current Edition
- *Dairy Production Technician Skill Profile and Performance Standards*, AAFRD, Current Edition
- *Feedlot Production Technician Skill Profile and Performance Standards*, AAFRD, Current Edition
- *Field Crop Technician Skill Profile and Performance Standards*, AAFRD, Current Edition
- *Irrigated Field Crop Technician Skill Profile and Performance Standards*, AAFRD, Current Edition
- *Irrigated Field Crop Production Technician Skill Profile and Performance Standards*, AAFRD, Current Edition
- *Sheep Production Technician Skill Profile and Performance Standards*, AAFRD, Current Edition
- *Swine Farrow to Finish Production Technician Skill Profile and Performance Standards*, AAFRD, Current Edition
- Other specialization-related resources as listed in the current AAFRD Publications Guide.









